Seattle City Light

Agenda

- Welcome (Bill Gaines)
- Introductions (All)
- Current Utility Industry Practices in IRP (Charlie Black)
- City Light Overview (Marilynn Semro)
- Scope & Schedule of 2006 IRP Process (Marilynn Semro)

  – **BREAK**
- Public Involvement Program (Bob Royer)
- Environmental Impact Statement (Corinne Grande)
- Stakeholder Group Meetings (Charlie Black)
- Proposed Agenda for Next Meeting (Marilynn Semro)

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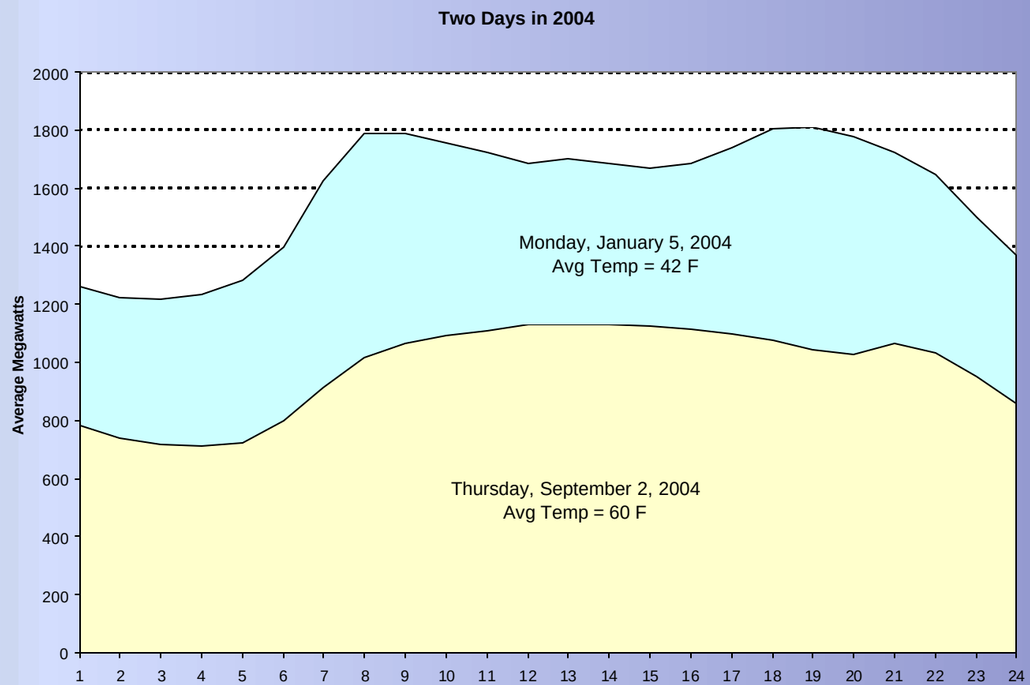
Overview

- Seattle City Light
  - Established in 1905
  - Nation's 7th largest publicly owned electric utility in terms of customers served
  - 370,500 average number of customers (2004)
  - Service area of 131.3 square miles
  - About 1,600 employees
  - Average rate 6.39 cents/kWh

Loads

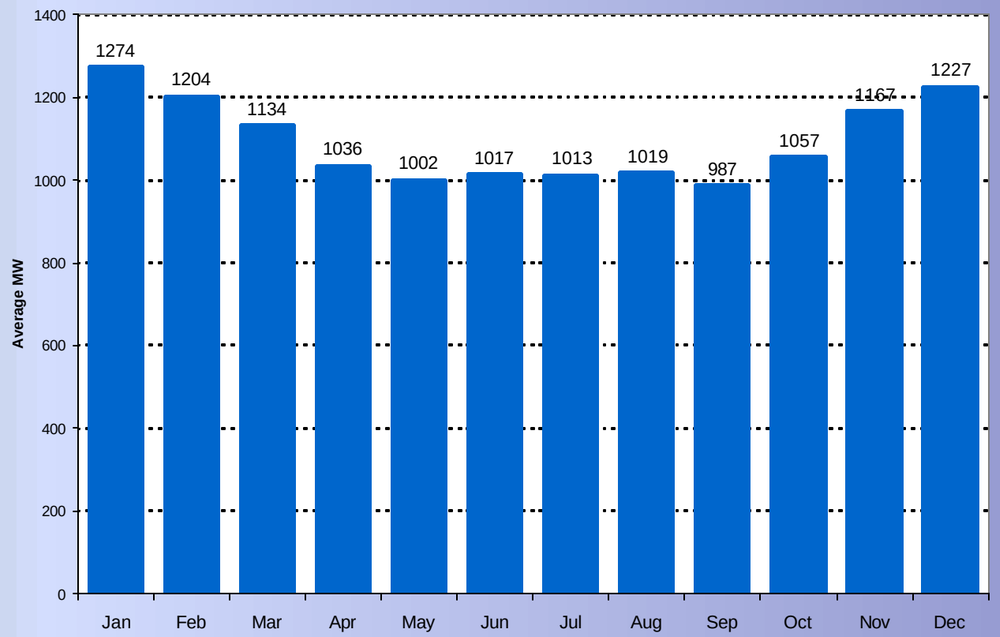
- Winter Peaking Utility
  - (except for downtown where winter and summer peak are about the same
- Peaks
  - Maximum System Peak 2055 MW, 10 am 12-21-1990
  - 2004 System Peak 1808 MW
  - 2026 Forecast 2167.5 MW
- Loads
  - Max average energy load 1142.4 aMW in 2000
  - 2004 average energy load 1088.4 aMW
  - 2026 forecast 1294.4 aMW
  - 0.8% long-term average growth rate forecast

Daily Load Shape

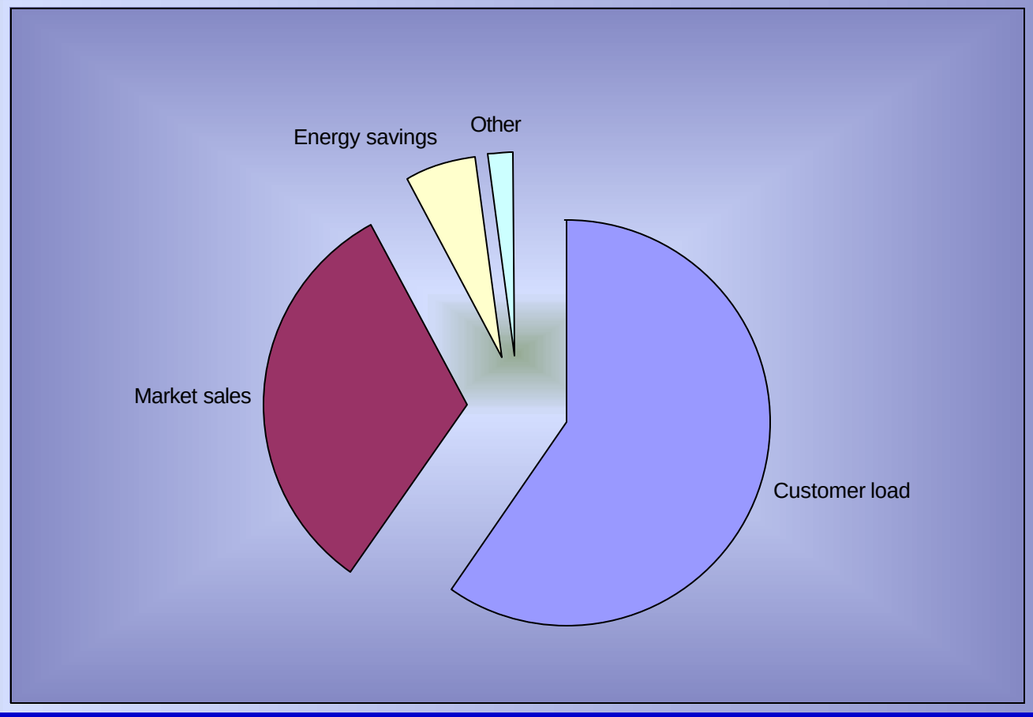


2004 Monthly Load

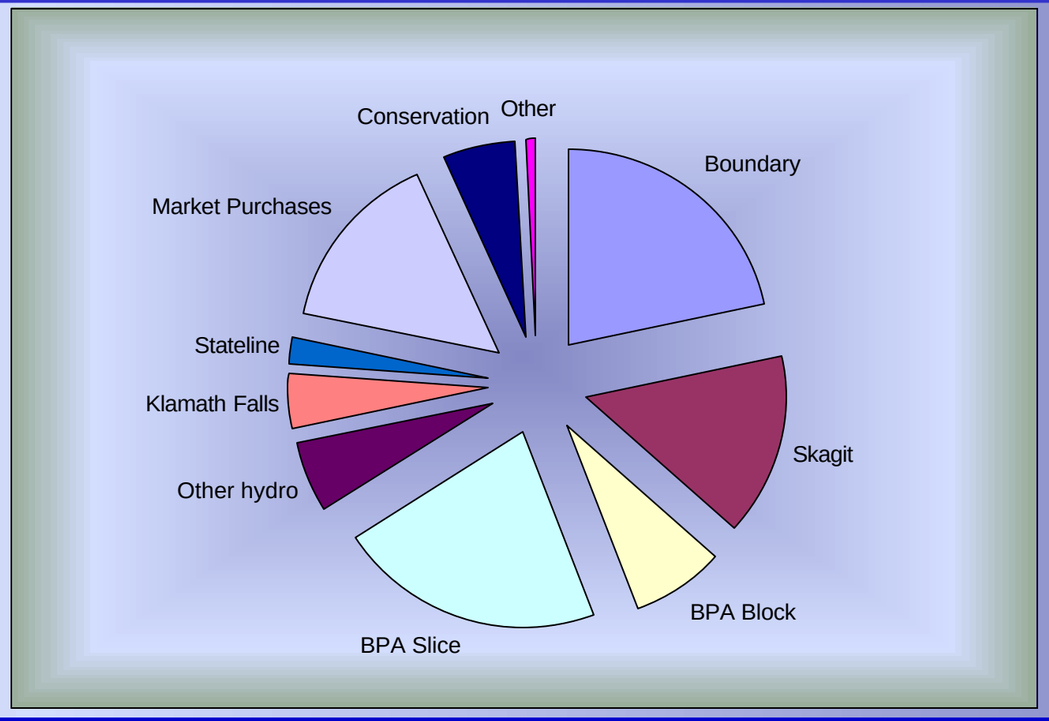
Monthly Load in 2004



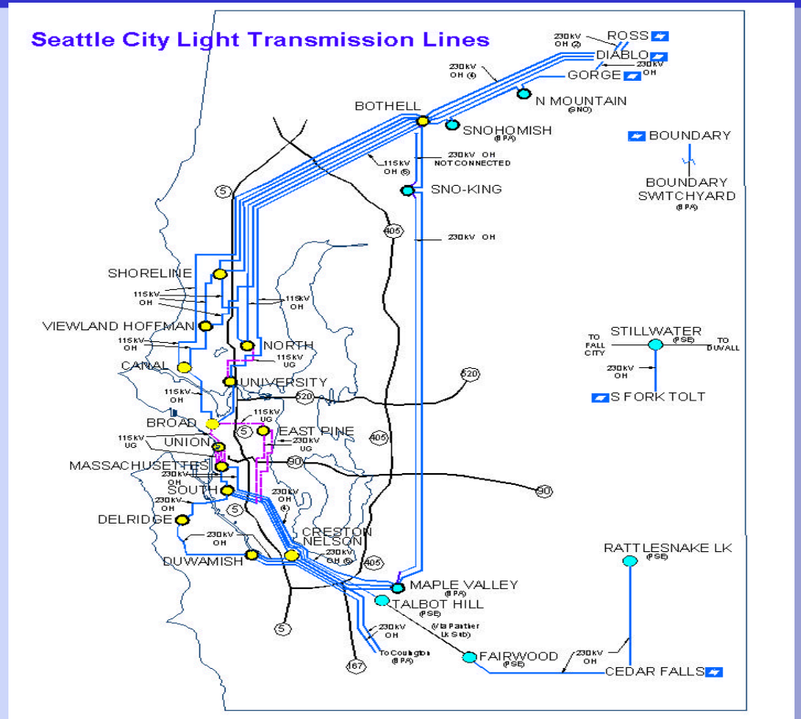
2004 Uses of Power



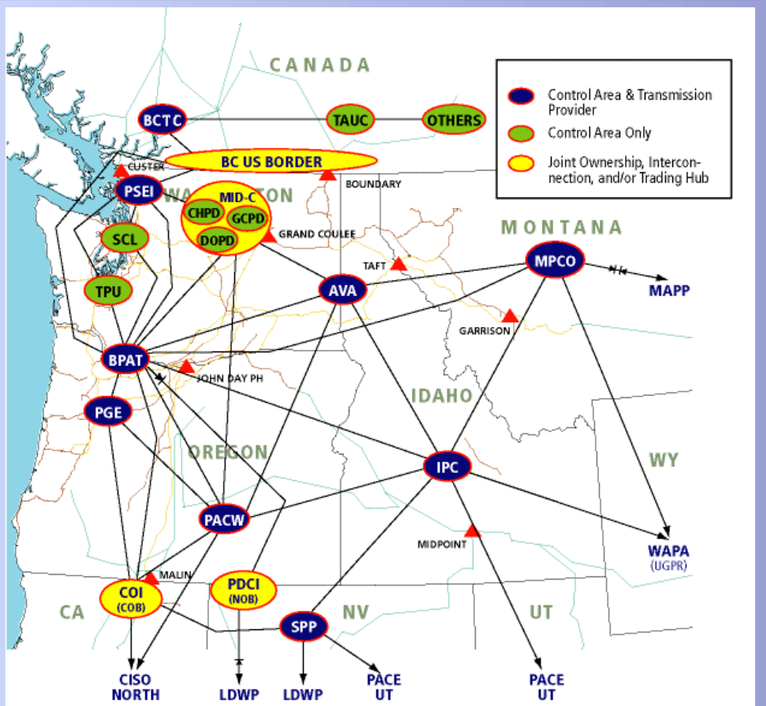
2004 Sources of Energy



Owned Transmission



Purchased Transmission



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- Welcome (Bill Gaines) and Introductions (All)
- Current Utility Industry Practices (Charlie Black)
- Seattle City Light Overview (Marilynn Semro)
- Scope & Schedule of 2006 IRP (Marilynn Semro)
  - Goals and Objectives
  - Topics to be Addressed in this IRP
  - Resource Alternatives to be Considered
  - Analysis Process
  - Resource Portfolio Model
  - IRP Schedule
- Public Involvement Program (Bob Royer)
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Goals

- Fundamental Goals for SCL's Resource Strategy
  - Provide reliable service
  - Minimize costs
  - Manage risks
  - Mitigate adverse environmental and societal impacts

- SCL's Integrated Resource Plan (IRP)
  - Create a long-term (20 year) Resource Strategy
  - Update IRP every two years
  - Provide timing, amounts and types of new resource acquisitions

Why Do an IRP Now?

- The Mayor, City Council and Advisory Board have directed us to do an IRP
- Need to review opportunities to improve the value of the current portfolio
- By 2011 SCL may need new resources
  - Load Growth
  - Boundary Relicensing
- New BPA contract product choice
- Resource strategies take time to implement
- Need to rebuild SCL's long-term planning capability

Primary IRP Objectives

- Analyze future electric loads and resources, including
  - evaluating a variety of candidate portfolios of existing and potential new resources
  - risk associated with loads, prices, resources, etc.
- Formulate and adopt a long-term (20 year) strategy for City Light's power portfolio including identification of the preferred mix of
  - Types,
  - Amounts, and
  - Timing for resources planned to be included in the resource portfolio (2007-2026).

Project Objectives

- Prepare and issue a written IRP Report by third quarter 2006
  - Presents the adopted resource strategy
  - Describes the planning process used to develop the IRP
  - Documents the forecasts, assumptions and other inputs used, resource alternatives considered and results of the analysis of candidate resource portfolios
- Rebuild internal capabilities for resource planning
- Coordinate with other planning processes
- Conduct an open process to incorporate stakeholder input
- Build a collaborative, cross-functional culture

Process Overview

- Cross-functional, collaborative process
  - Project Management team to direct and coordinate efforts
  - Nine cross-functional teams formed with staff from different units in utility to support effort
- Consultant Support
  - Conservation Potential Assessment – Quantec
  - Resource Portfolio Planning Model – Global Energy Decisions
  - Project Management and Public Involvement – Charles Black
- Stakeholder Participation
- Public Participation
- City Council, Mayor's Office and Advisory Board Participation

Topics

- Quantitative Analysis
  - Risk analysis
    - Stochastic Analysis - statistically quantifiable (e.g. load, prices)
    - Scenario Analysis - measurable but not statistically quantifiable
    - Paradigm Analysis - describable but difficult to represent numerically (e.g. regulatory changes)
  - Resource and transmission adequacy
  - BPA purchase relationship
  - Conservation resources
  - Renewable resources
  - Reconfigure existing portfolio to meet fundamental goals
  - Mid-term hedging strategies (e.g. address variability in existing portfolio or new resources)

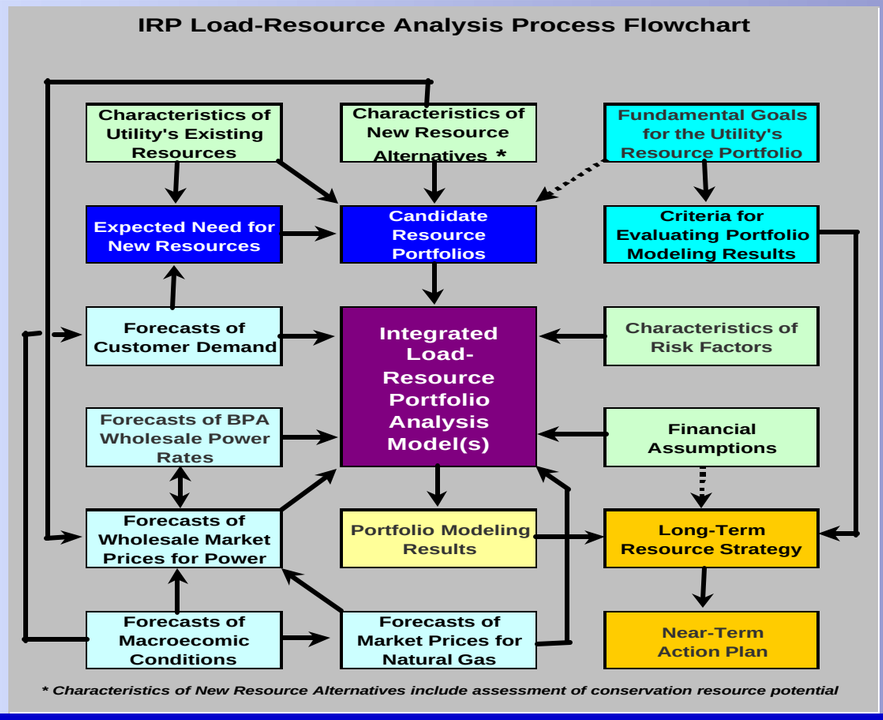
Topics

- Qualitative Analysis
  - Regional resource planning adequacy
  - Regional transmission efforts
  - Coordinated development of resources and transmission
  - Renewable Portfolio Standards
  - *New environmental regulations*
  - *Global warming*
  - *Distributed generation*
  - *Demand response*
- Deferred
  - Integrating T&D planning with IRP
  - Fuel conversions
  - Potential for new regulatory and legislative changes
  - New technology changes
  - *South Lake Union*
  - *Owned vs. contracted resources*
  - *Boundary relicensing*

Resource Alternatives

- Conservation Measures
- Contracts
  - BPA
  - Seasonal Exchanges
  - Shaped Products (Options, Swaps, Block Purchases, etc.)
- Renewable Resource
  - Wind power generation
  - Biomass, biogas and landfill gas generation
  - Geothermal power generation
- Hydroelectric Resource & Efficiency Improvements
- Thermal Resource
  - Natural gas-fired combustion turbine generation
  - Coal-fired generation

Analysis Process



Portfolio Model

- Acquired Global Energy Decision's model : EnerPrise 2.1 - Planning and Risk
- The model will
  - Represent SCL’s current energy supply portfolio (generation, contracts, conservation) and customer loads
  - Estimate the performance of multiple alternative resource portfolios in a quantitatively detailed and consistent manner
  - Increase our confidence in resource selections by evaluating portfolio alternatives with a stochastic analysis of variables
  - Assist with data organization acting as a repository for historical and forecast data

Schedule

Task	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06
Collect Data Inputs											
Build Forecast Assumptions											
Analyze Alternative Portfolios		First Screening				Second Screening					
Environmental Impact Statement	Initial Assessment				Draft EIS Written	Draft EIS Issued				Final EIS	
IRP Document									Draft IRP Written	Comment on Draft IRP	Final IRP
Public Stakeholder Meetings	↑	↑	↑		↑	↑		↑	↑		↑ ↑
Council Updates					↑	↑			↑	↑	

Yellow: Stakeholder Group
Orange: Public Meeting
Pink: Advisory Board
Green: EEP Committee

First Round of Portfolio Analysis Completed

Second Round of Portfolio Analysis Completed

Final IRP Delivered and Presented to Council

Conclusions

- IRP Scoping and Work Plan are essentially complete
- Necessary consulting support has been engaged
- IRP Process
  - Cross-functional and collaborative
  - Conduct open process to incorporate stakeholder input
- Hardware and modeling software has been installed
  - Training on software is on-going
  - Historical and Forecast Resource and Load data is being collected and entered
- Next steps:
  - Complete load and resource balance
  - Collect new resource, environmental data and forecast price info
  - Create Scenarios and Portfolios

Questions?

Next Meeting Agenda

- Inputs and Assumptions to Review
  - Forecasts
    - loads
    - electric and natural gas price
    - hydro availability
  - Supply-Side Resources
    - Existing and proposed contracts, hydro, thermal and renewable resources
  - Transmission
  - Demand-Side Resources
  - Scenario and Paradigm shifts
- Resource Portfolio Development
- Resource Adequacy Discussion